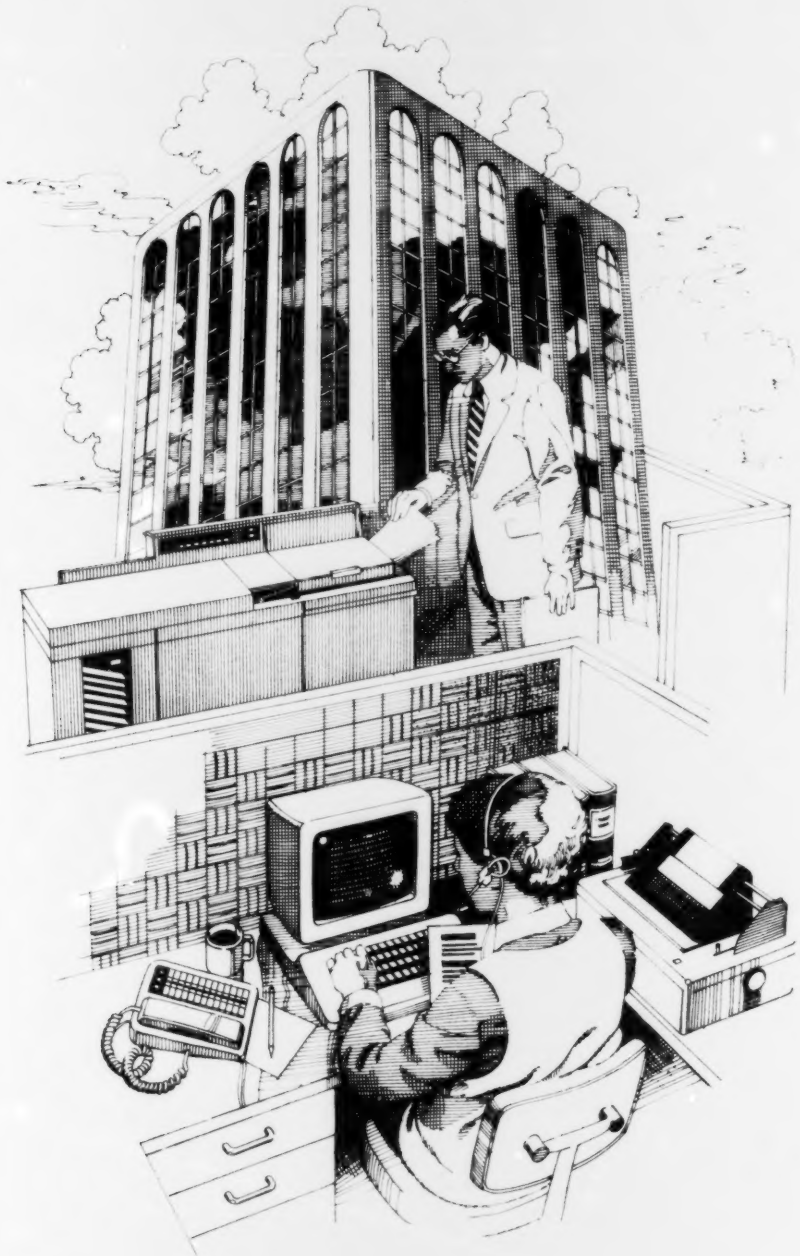
DOWNTOWN
Employment Study



Final Report of The Downtown Employment Study Steering Committee
April, 1988

Typesetting, graphics and page layout for this report by
City of Toronto Planning and Development Department
Robert E. Millward, Commissioner

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History

On March 5, 1986, the Executive Committee had before it a letter from Councillors Gilbert and Layton (dated February 21, 1986) regarding a proposal for a comprehensive study of office employment and development trends in the Downtown. In their letter, Councillors Gilbert and Layton raised a number of concerns regarding future office employment and development trends in the Central Area. Ten specific areas of inquiry were listed. These included:

1. Past trends in occupational and industrial structure (1971-85) at the local, regional and national scales;

2. The impact of technological change on the demand for office employment and office space in the Central Area;

3. Possible government initiatives to support the Central Area's position as a major centre in the new information economy;

4. The growing sub-sectors of the office economy and the locational preferences of these functions;

5. Changes in the development industry and in the frequency of major office developments (e.g. the introduction of "patient" money);

6. The nature of tenants locating in new Central Area office space - who they are and what attracts them;

7. Whether the alleged lure of "smart" buildings is justified;

8. The implications of future trends for the existing stock of older office buildings and possible retrofit strategies;

9. The experience of other major cities - a look at key indices such as employment levels, floor space growth, FSW trends, vacancy rates, etc. in the context of new and evolving technical environments; and

10. Differences in employment trends between suburban and downtown office centres.

Also included in the letter were recommendations that:

1. The Commissioner of Planning and Development prepare terms of reference and estimate the likely costs of the work outlined above in time for the next meeting of the Economic Development Committee.

2. The Budget Review Group be sent copies of (the) letter and the proposed report for information as soon as the report is ready.

3. This Committee consider establishing a sub-committee at an early date to monitor the selection of consultants for and progress of the proposed work, subject to its approval by City Council.

The Executive Committee subsequently directed the Commissioner of Planning and Development to report on the terms of reference requested in Recommendation 1 and to meet, in the meantime, with the City's Budget Chief to review the funding implications of the proposed study.

On March 21, 1986 the Commissioner of Planning and Development reported to City Council on the terms of reference for the proposed studies. These studies were approved at a cost of $70,000.

Study Context

A central theme of the study proposed by Councillors Gilbert and Layton focussed on the need for an examination of the impact of recent technological changes on the problem of employment and floor space forecasting. To some degree, Planning staff had anticipated the concerns articulated by Councillors Gilbert and Layton and were considering them as part of the 1986 Quinquennial Review of the City's Central Area Plan. In order to establish an integrated and rational overall study program, Planning staff combined the requirements of the Quinquennial Review with the extended areas of study proposed in the Councillors' letter. This process resulted in the development of a program for the Downtown Employment Study consisting of five sub-studies. A Downtown Employment Study Steering Committee was established to oversee the conduct of the Study program.

The Downtown Employment Study Steering Committee

In considering Recommendation 3 of Councillors Gilbert and Layton's letter a Downtown Employment Study Steering Committee was established to monitor the progress of the consultants' work. Due to the focus of the proposed study on technological issues, it was suggested by Councillor Gilbert that people familiar with various advances in technology be invited to sit as members of the Downtown Employment Study Steering Committee. In addition, given the emphasis on the Central Area's office sector, it was thought that the study would benefit by the input of members invited from the real estate and office development communities. Consequently, in its final form the Downtown Employment Study Steering Committee consisted of the following members:

Councillor June Rowlands, Chairman
Councillor Richard Gilbert
Councillor Ron Kanter
Councillor Jack Layton
Alderman Nadine Nowlan
Mr. Peter Broadmore, IBM
Mr. Brad Henderson, Royal LePage
Dr. David Nowlan, University of Toronto
Mr. Ralph Selby, Price Waterhouse
Mr. Ian Sharp, I.P. Sharp and Associates
Mr. Ron Soskolne, Olympia and York Developments

The Sub-Studies

Of the five sub-studies approved by Council, consultants were retained for three. They were:

Study 1 Outlook for Office Employment and Office Space in the Central Core - Hemson Consultants Limited ($30,000)

Study 2 Employment Impacts of Technological Change in the City of Toronto - Donovan Pinker Consultants Limited ($35,000)

Study 3 Financing Office Development - Royal LePage Limited ($5,000)

The remaining two studies were to be undertaken primarily by City Planning staff and were:

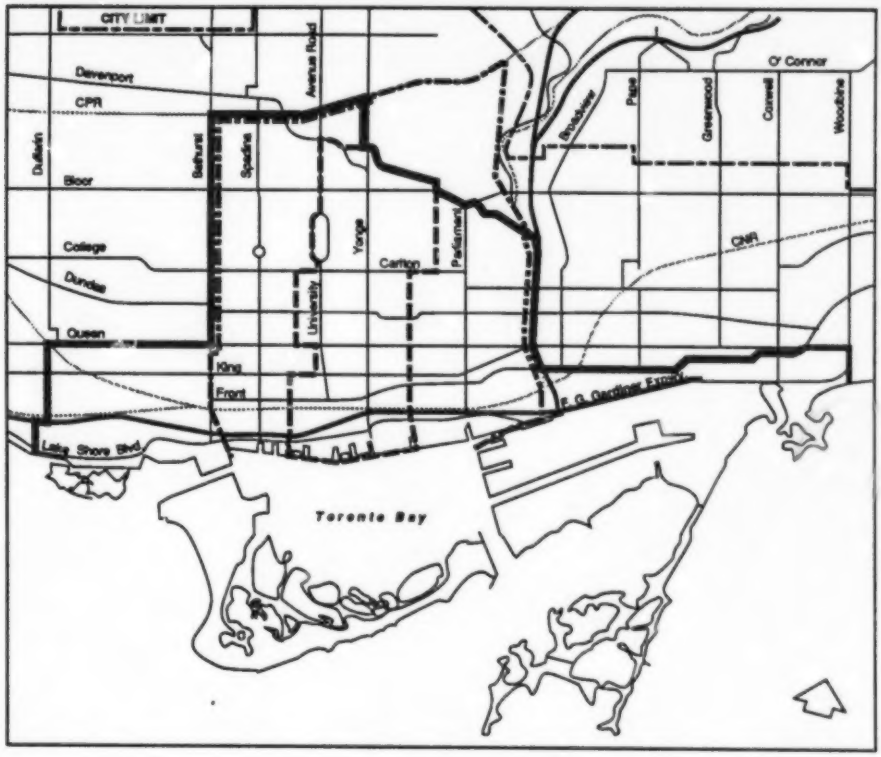
Study 4 Comparative Study of Downtown Office Sectors: The Experience of Other Cities.

Study 5 Final Report of the Downtown Employment Study Steering Committee.

Also, over the course of the regular meetings held by the Downtown Employment Study Steering Committee to review the consultants' work, additional issues beyond the original scope of the Study program were identified for inclusion in the Final Report. The following sections of this, the Final Report, begin with a summary of the preceding sub-studies (Section C) and leads to a discussion of whether the forecast trends for the Downtown office sector warrant any government action (Section D). Section E discusses a number of other related issues raised by the Steering Committee and the overall Study conclusions are summarized in Section F.

For information, Map 1 describes the various sub-areas of the City which are referred to later in the course of this report.

Map 1: The Central Area, The Central Core and The Central Area Cordon



THE CENTRAL AREA

THE CENTRAL CORE

THE CENTRAL AREA CORDON

Major Findings of Sub-Studies

Sub-Study 1: Outlook for office space and employment in the Central Core

Sub-Study One consists of three phases: (i) an evaluation of the various data on past trends in the absorption rate of office space; (ii) a forecast of office employment growth and office space consumption; and (iii) the identification of the policy implications of current trends in the office sector. An in-depth analysis of employment at the firm or establishment level focussing on future growth patterns and the rationale for why firms moved into or out of the Central Core was carried out. Where possible the study examined the key economic indicators which impact upon the future rate of Downtown office employment growth. The study also prepared growth forecasts for key sectors in the office economy and assessed their implications for the future development of the Central Core. Following this, the policy implications for land use, transportation and economic development were reviewed.

Methodology

Hemson Consultants Limited was commissioned to undertake Sub-Study One of the Downtown Employment Study. Since most of the office space and employment in the Central Area is located within the Central Core, Hemson focussed on this smaller district. The approach they used involved four major steps. First was an analysis of employment data prepared by the Metropolitan Toronto Planning Department through their annual employment surveys. These data were used to examine employment trends on an industry-by-industry basis over the 1980 to 1986 period. Secondly, Hemson's proprietory database of office buildings was used to prepare an analysis of long-term office space demand. In addition, a building-by-building analysis of municipal assessment records was undertaken in order to construct a space profile of the Central Core by industry for the 1975 to 1985 period.

Following this, three surveys were carried out which included major and minor tenants of office space in the Core and/or firms that had recently moved. The surveys were designed to obtain views about past trends and future expectations for employment and office space. Finally, using survey results, historic trends in employment and space consumption and existing forecasts of economic and employment growth, their own future estimates of employment, floor space per worker ratios and new office space demand were developed.

Findings

Given the approach described above, Hemson concluded that:

- Floor space per worker ratios rose rapidly between 1975 and 1980 and this alone accounted for 29 percent of the increase in office space demand over that period.

- Competition from suburban office developments is increasing and the Core Area's share of demand is diminishing.

- The Central Core is dependent on certain sectors for employment and office space demand particularly Financial and Business Services. Between 1971 and 1986, 71 percent of employment growth and 78 percent of office space demand was accounted for by these two sectors.

Based on surveys and interviews Hemson describes the following expectations for employment growth and growth in office space demand:

- The decentralization of some banking functions along the lines of the Royal Bank, Bank of Montreal and Bank of Nova Scotia data centres would continue as a means of controlling costs. Employment growth and floor space per worker increases in the Central Area would be slow in the banking sector.

- There is virtually no prospect for decentralization in the investment services industry; office space has been taken on in advance of employment expansion among firms already operating in the Core; new space demand will come from new entrants to the local securities market allowed by the deregulation of financial services; foreign firms, Canadian banks and possibly mergers will create moderate employment growth and space demand.

- Modest employment growth is expected in the insurance industry; office space demand is expected to be in line with employment growth.

- Current restraint and plans for decentralization mean that little or no employment growth or increases in office space demand can be expected from government in the Central Core.

- Employment growth in Business Services is expected to be strong but will not be matched by equivalent growth in the demand for office space.

- Employment and office space consumption in the Transportation, Communications and Utilities Sector will remain stable at current levels.

Hemson's forecasting efforts yielded the following results:

- Employment growth is expected to range from 21,300 to 25,900 in the Central Core between 1986 and 1991 - mid-range growth of 23,600 represents a rate of 1.8 percent per year.

- Net Floor Space Per Worker is expected to increase from 231 square feet per worker in 1986 to 238 square feet per worker in 1991.

- Office space demand is expected to increase by 6.8 million square feet by 1991 - 1.3 million square feet per year.

An update on the findings of the Hemson report are provided in Appendix E.

Sub-Study 2: Employment Impacts of technological change in the City of Toronto

Sub-Study Two investigated four broad themes: (i) new office technologies and office automation; (ii) the extent to which the Central Area office sector is adopting technological innovations; (ii) the impacts of technological change on the local patterns of office space consumption and office employment; and (iv) the concept of the "smart" building.

The emphasis in Sub-Study Two was to identify the processes by which technology enhances productivity in the office sector and the type of technological adaptations that are being made. Secondly, the study examined the rate and extent to which technological innovations are being adopted by the Central Area's office community and sought to determine the employment and organizational impacts on firms arising out of these innovations. Thirdly, the impacts of technological innovation on floor space demand and floor space per worker ratios were examined. Finally, the concept of the "smart" building was examined in the context of the tenants they attract and the implications for the older stock of existing office buildings.

Methodology

Sub-Study Two, conducted by Donovan F. Pinker Consultants, consisted of three surveys. First, a random sample of 200 firms was selected from the Metro Employment Survey. This sample was stratified by industrial sector, firm size and by area within the city. The firms in this sample were then asked to respond to two questionnaires; one focussing on office technology needs and another on office employment and the impacts of technology.

The second phase of Sub-Study Two focussed on the concept of the "intelligent or smart building". The aim of this phase was first to provide a definition of exactly what is meant by the term "smart building". Secondly, six international examples of smart buildings were examined in detail. The purpose of this exercise was to explore the various architectural forms and engineering solutions employed in creating intelligent buildings. It should be noted that due to copyright restrictions, circulation of the Phase 2 report is limited, by the consultant, to members of the Downtown Employment Study Steering Committee only.

Findings

The major findings of Sub-Study Two can be summarized as follows:

- New office technologies are in widespread use in the City of Toronto.
- Further increases in the utilization of new office technologies can be expected over the next five years. These include adaptations to a range of routine office tasks as well as business planning and control and desk-top publishing. In addition, the use of personal computers by senior and middle management is expected to double over the next five years.
- Sixty-five percent of the firms surveyed in Business Services and 53 percent in Financial Services had local area networks installed.

- Fifty-four percent of all respondents use Wide Area Networks (WAN); WAN use was highest in Finance, Insurance and Real Estate where 76 percent of firms surveyed used them.

- Of the firms planning to relocate over the next five years or when their lease expires, 55 percent said they would or possibly might move to intelligent space if it were available.

- Firms in the Financial and Business Services sectors constitute the largest market for intelligent office space.

- The globalization of business, particularly in Financial and Business services, gives increasing importance to the integration of telecommunications technologies and the concept of the intelligent office building.

Sub-Study 3: Financing office development

Sub-Study Three investigated the claim that new sources of financing, popularly referred to as "patient" money, are becoming available from pension and life insurance funds to finance the office development industry. The general assertion was that patient money investors are willing to accept lower rates of return over an extended pay-back period. It was thought that office developments in Downtown Toronto provided such investment opportunities and, as a result, patient money contributed to high vacancy rates and general oversupply conditions in the Central Area office market.

To test these hypotheses the Commissioner of Planning and Development recommended that a consultant be retained to conduct interviews with key people who are knowledgeable in the fields of investment, real estate and development. The general thrust of this research was to determine the significance of "patient money" in shaping the future course of office development in the Central Area.

Methodology

The Real Estate Consulting Services Branch of Royal LePage Limited was retained to conduct the study on Financing Office Development. Their approach to the study involved approaching and interviewing the senior executives responsible for real estate investment and development of 11 "patient money" investors in an attempt to determine their investment attitudes and expectations. The following organizations were interviewed:

London Life
Sun Life
Lehndorff Corporation
Morguard Investments Limited
Ontario Municipal Employees Retirement Board
Prudential Life Insurance
Royal Trust Corporation
Standard Life Corporation
Edgecombe Corporation
Ontario Hydro (Pension Fund)
Ontario Hospital Association (Pension Fund)

Findings

The major findings of Royal LePage include:

- Pension fund assets in general and the real estate portions of their portfolios grew rapidly between 1975 and 1985.

- Life Insurance assets grew rapidly between 1975 and 1985 but the real estate portion of their portfolios showed less rapid growth due to a longer period of involvement in real estate investment.

- Patient money phenomenon is overstated - increasing pressure brought to bear by policy holders has meant an emphasis on performance improvements for funds - this tends to rule out real estate products with extended periods of low yields.

- Institutional investors do not undertake speculative investment in real estate develoment. i.e. in soft real estate markets investment tends towards other vehicles such as mortgages, stocks and bonds.

- There has been no increase in institutional investment in renovated office product.

- In periods of low vacancy and high demand a majority of building starts are commenced by institutional investment.

- In periods of high vacancy and low demand entrepreneurial investment dominates building starts.

- Both entrepreneurs and institutions judge office development to be financially feasible currently.

Sub-Study 4: A comparative study of downtown office sectors

It was proposed that Sub-Study Four be conducted in two phases. In the first phase, Planning and Development Department staff were to provide a comprehensive comparative analysis of office development and employment growth in other North American and overseas office centres. This analysis was to focus on office employment levels, growth of office space, floor space per worker trends, vacancy rates, evidence of the impacts of technological change and associated levels of commuting in a sample of cities selected for comparison.

Once Phase One was completed, an optional second phase would be undertaken by consultants which would focus on an interpretation of trends identified in other centres. This was to be carried out upon the recommendation of the Planning and Development Department. However, difficulties in assembling comparable data for the selected sample of cities led Planning Staff to conclude that the Phase Two Study option would not be worthwhile to pursue.

Methodology

In attempting to assemble a consistent and comparable set of office market indicators for urban centres in North America and abroad, planning staff encountered a number of difficulties. Given the limited resources of the Study and the inconsistencies in methods of data collection and reporting, attaining readily comparable information for overseas centres proved extremely difficult. It was decided, therefore, that the analysis would be restricted to a limited number (13) of North American centres. However, even in attempting to assemble consistent and comparable data for North American cities, important differences in reporting methods made even this exercise problematic. To the extent that comparisons and generalities could be drawn from the data available, these are reported in the Planning and Development Department's report.

The following 13 North American cities were selected for comparison over the 1980-85 period:

Calgary	Atlanta	Los Angeles
Edmonton	Boston	New York
Montreal	Chicago	San Francisco
Toronto	Dallas	Vancouver
Houston		

Findings

The major findings of the Sub-Study Four are:

- Of the 13 cities examined population growth ranged from 19.82 percent in Dallas to 1.86 percent in Chicago between 1980 and 1985; the Toronto region's population grew by 8.36 percent over that period reaching 3.2 million in 1986.

- Employment growth in all cities was characterized by a shift towards employment in the service sector; service sector employment in the Toronto Region reached 31.6 percent of all employment by 1985.

- By 1985 the inventory of office space in the Toronto Region totalled 8.5 million square metres (91.4 million square feet) -the seventh largest inventory among the centres examined.

- Toronto's stock of Downtown office space totalled 5.73 million square metres (61.7 million square feet) - 60 percent of the regional inventory and representing the third most spatially centralised market of the cities examined. However, it should be noted that for such cities as Vancouver and Edmonton, there was no reported split between Downtown and suburban office space, since office space in these cities is largely only in the Downtown areas.

- In the Metro Region over the 1980-85 period, office construction and absorption rates averaged 0.4 and 0.3 million square metres a year respectively, while vacancy rates averaged 9.0 percent over the same period, the second lowest rates recorded (after New York City).

Discussion of Study Findings

Themes

In as much as the overall study theme of assessing the impacts of technological change on the City of Toronto's office market has been addressed in the consultants' reports, a number of important facts or trends have come to light. In a very general sense the consultants conclude that technological innovation is having very important impacts in the office market, namely on the nature of work in the office, where different types of office work is being conducted (downtown versus suburbs), the type of facility in which work is carried out and on broader patterns of employment growth.

There appears to be a consensus on the suggestion that the impacts of technology cannot be separated from the secular patterns of employment growth and restructuring in the labour force as a whole. Rather the combination of these forces is working to alter the nature and operation of the office sector today.

With respect to the "patient" money issue, Royal LePage suggests that while institutional investment in office development is significant, return expectations are the same as for entrepreneurial investors. It should be noted, however, that "patient" money investors may show a tendency to accept lower current returns while anticipating average long-run returns. The Downtown Employment Study Steering Committee, in fact, noted examples wherein the so-called patient investor may outbid an entrepreneurial investor for land based on assumptions related to longer term selling prices and rents. Similarly, foreign investors may be willing to pay more for Canadian real-estate than local investors.

Royal LePage, however, notes that forces other than institutional investment (although not specifically identified in their report) appear to be affecting the office market in more important ways. Both Hemson and Donovan Pinker Consultants suggest, in fact, that recent office market dynamics can be explained to a large extent by events in the Financial and Business Services sectors.

Hemson Consultants, for example, indicate that the demand for office space in the Central Core between 1971 and 1985 was led by the Financial and Business Services sectors. In addition, based on their forecasting method, they suggest that the largest proportion of office space demand over the next five years will also come from these two sectors. Although a large part of the demand for office space between 1971 and 1985 was attributable to increases in the floor space per worker (FSW) ratio, Hemson argues that over the next five years less will be attributable to further FSW increases and more to employment growth particularly in Financial Services. Based on their findings and forecasts, Hemson suggests that transportation planning should be tied more closely to the expected demand for office space than to the increased supply implied by project proposals.

The latter suggestion is especially important when one considers the cyclical nature of the economy in general and the office market in particular. For example, recent data provided by Royal LePage indicate that office space demand in the City in 1987 has been well above the annual average rate forecast by Hemson. Over the first six months of 1987, some 2.2

million square feet of office space has been absorbed in the Central Area. To a large extent, this reflects the exceptional rate at which the economy is currently growing coupled with the initial impacts of financial services deregulation in the City. Indeed, anecdotal evidence suggests that the pattern of absorption observed so far this year appears consonant with those portions of the deregulation legislation which allow for greater foreign involvement in Canadian capital and money markets. Royal LePage suggests that a large part of office space demand is coming from the emergence of new and the expansion of existing foreign banks and investment houses.

While examining the more specific aspects of office technologies Pinker suggests that the largest portion of demand for these technologies is likely to come from the financial services sector. Furthermore, Pinker suggests that as business in financial services continues to globalize, the flexibility to adapt to changing technological needs becomes paramount in office design. Built-in flexibility generally means very large floor plates, greater column-free space, advanced automated building systems including heating, ventilation and air-conditioning and security systems, higher floor-to-ceiling heights, flexible wiring systems and the like. It is such "intelligent space", he argues, which will be in demand by the expanding Financial Services sector.

Neither Hemson nor Pinker were directed to address what the impacts of financial services deregulation which began in June of 1987 are likely to be. It appears to be the Committee's feeling that some effort be made to assess what these impacts might be on employment and the demand for office space in the City. As a first step, Pinker has suggested that London, England, where deregulation was announced much earlier, provides a "window" through which we might look to anticipate the type of local impacts that could occur.

Over the course of the Downtown Employment Study Steering Committee's meetings a number of additional issues related to the impacts of technological change, which extended beyond the original terms of reference, were raised. The first of these issues concerned current City policy in relation to the establishment of intelligent buildings. Because of the nature of intelligent buildings (i.e. large floor plates, higher floor-to-ceiling heights, generally higher densities) it was suggested that an evaluation of the Zoning By-law be made to determine if any of its provisions conflict with the establishment of intelligent buildings. This assessment is provided in the following section.

A further concern raised by the Downtown Employment Study Steering Committee focussed on the need to understand the role telecommunications play as part of the urban infrastructure. Emphasis here was to be on the role of teleports and fibre optics and whether the city should play a greater part in providing and/or advocating their installation and development as part of the larger system of urban services.

In general terms, the Downtown Employment Study Steering Committee raised the question of the possible need for City action with respect to emerging concerns over:

(a) the possible need for changes to the City's current planning controls and policies (as principally expresssed in the Zoning By-law and Official Plan) resulting from the built-form characteristics and other features of smart office buildings;

(b) changes to the recommended study program identified in the recently published 1986 Quinquennial Review of the Central Area Plan, and

(c) ensuring the development of an adequate telecommunications infrastructure to support the growth of a technically advanced office sector in the Central Area and the promotion of the City as an attractive and internationally competitive office centre.

Implications for Planning and Economic Development

Planning Matters: The relationship of intelligent building design and the City's Zoning By-law and Official Plan

Intelligent building design

Office buildings will increasingly be designed and constructed to accommodate advanced technologies - today's and tomorrow's - with a minimum of inconvenience and cost. To achieve this goal, such buildings will tend to incorporate the following features:

1. Have larger floor plates, ranging up to 40,000 sq. ft. per floor.

2. Be in excess of 300,000 gross sq. ft. to ensure economies of scale for information services.

3. Floor plates should have large column-free spaces to permit easy reconfiguration of internal layouts due to changing management practices.

4. Floors should be capable of supporting live loads of 80-100 pounds per square foot in general work areas and loads of up to 150-200 pounds per square foot in special areas, e.g., battery and computer rooms.

5. Superior horizontal cable management facilities, typically cellular or raised floors.

6. A two to three times increase in vertical risers (cable ducting), usually decentralized to the corners of the building core or into office areas.

7. Reinforcement of the roof to accept further mechanical equipment, including microwave and earth station dishes.

8. The provision of clean electrical power supply of some six to eight watts per square feet throughout office work areas. The availability of uninterrupted power supply (UPS) in the form of battery rooms.

9. Minimum floor to floor heights of twelve feet six inches and floor to ceiling of nine feet.

(Donovan Pinker, Shaping the Office Building for Intelligence, 1987)

City's Zoning By-law and Official Plan

In general, the City's current planning controls, as principally expressed in the Zoning By-law, do not appear to impose any serious restrictions upon the development of "smart" office building forms. However, some possibilities for relatively minor conflicts with existing regulations do exist depending on site specific building design conditions. These areas are identified below.

Satellite and microwave dishes

For long distance transmission there are two alternatives to services provided by telephone companies, namely satellite transmission, including shared services such as teleports, and microwave links. With the exception of teleports, communication dishes would generally be located on the roofs of office buildings.

Section 4(2)(6) of the Zoning By-law lists rooftop equipment such as pollution abatement equipment that are allowed as-of-right under certain height restrictions. No mention is made of telecommunications equipment. The provision of telecommunciations equipment therefore requires a site specific by-law or an accessory use interpretation.

Security

The need for increased security in modern office buildings is sometimes cited as justification for limiting public access to such buildings.

Section 1A.47 of the Official Plan, which promotes public walkways in new office development at ground level, above ground level and below ground level, is therefore a potential source or conflict. Similarly, Section 1A.16 of the Official Plan and Section 8(12)(b) of the Zoning By-law, which require the provision of street-related retail uses within office buildings in some areas of the Central Core, also pose a potential source of conflict. However, to some degree, smart buildings are capable of "looking after" their own security needs (remote sensors, ID cards) without any obvious impacts on public access.

Larger floor plates

Perhaps the most distinctive architectural feature of intelligent buildings is their tendency to have large floor plates ranging up to 40,000 square feet for the typical ground and lower floors of the building. The result, in some instances, may be bulkier office buildings than are currently the norm in downtown Toronto.

This feature of some intelligent office buildings has implications for Section 1A.48 of the Official Plan, which states:

> *"In order to achieve an improved pedestrian environment at and around street level in the Central Area, Council will seek to ensure satisfactory conditions with respect to wind and calm, and sun and shade. In doing so, Council will seek to alleviate existing problems of high wind velocities and lack of sun in important pedestrian areas caused by the height or the*

> *inappropriate spacing or configuration of buildings, and to prevent the worsening of such conditions. In using its powers of regulation and review in implementing this Section, Council will apply objective standards to determine satisfactory conditions."*

Associated with this Official Plan statement is the common outdoor space provision of the Zoning By-law. Section 8(3)(a) requires that up to 18% of the lot of an office building in the Central Core be used for common outdoor space. These provisions for improved pedestrian environments and increased common outdoor space may be difficult to fully meet in the development of intelligent office buildings whose lower floors will cover a larger portion of the lot area. However, the typically "stepped" profile of smart buildings may improve micro-climatic conditions in certain circumstances.

The opportunities to develop office buildings with large floor plates are also constrained in the Central Core by the increasingly high costs of land assembly and the limited remaining supply of large redevelopment parcels. The Railway Lands, on the other hand, provide an array of undeveloped sites suitable for such buildings. This may result in the Railway Lands becoming a particularly attractive location for certain types of new office forms.

Floor heights

Nine foot high ceilings will become commonplace in new office buildings to accommodate cables and other conduits associated with smart buildings. Existing modern office buildings now typically provide floor to ceiling heights of up to 8 feet 6 inches.

The increased height requirements of smart office buildings could lead to conflicts with the building height limitations imposed by the Zoning By-law in certain commercial areas. In such cases, the height limit could act as a control on the total amount of floor space that could be built and might place the development of smart office buildings at an economic disadvantage. In the absence of binding height limits, density controls alone, of course, offer no particular advantage to either conventional or smart office development proposals in terms of the total amount of floor space that might rightfully be built.

Historic preservation

There is the threat that the evolution of the smart office building will eventually make existing office space obsolete. In theory, this may lead to increased pressure for demolition of historical office buildings to make way for more modern forms. Also, because of the large floor plate requirements of such buildings, it may become increasingly difficult to develop building schemes that preserve historic structures on parts of the site of the new development.

Preliminary indications from the world's financial centres, however, are that historical office buildings which are often characterized by relatively high ceilings, can often be relatively easily retrofitted to meet the demands of present and future tenants for increased communications services. On the other hand, more recently constructed office buildings, built during the 1960's and 1970's, pose greater economic restrictions on retrofitting for modern technology because of low ceilings and floors with frequent columns and beams.

Conclusions

The design requirements of smart office buildings, particularly the need for large floor-plates and higher ceilings, may lead to some changes being necessary in current planning policies and related control mechanisms. Existing height controls may, in certain areas, deter the development of smart office buildings. The built-form characteristics of these buildings may also add to existing planning concerns over such Downtown issues as the massing of new developments and their impacts on ground-level conditions as they relate to such factors as the provision of open space, and the general enhancement of the pedestrian environment. The demand for smart office space may produce increasing pressures to replace or substantially rehabilitate existing office space and the issue of historical preservation may become even more pressing. Finally, other features of smart buildings, such as the need for increased security and the installation of rooftop telecommunications equipment, raise a more specific set of planning concerns.

Although the smart office phenomenon presents a number of planning concerns, it is not recommended, at this time, that any major changes be made to the City's current planning approach to commercial development in the Central Area. The existing planning process has within it considerable flexibility to adapt to specific local needs and it is felt that the concerns raised by smart office buildings can be sensibly accommodated within the present planning approval framework. In terms of adapting to the possible demands of smart office developments, it appears preferable to consider changes to existing planning policies and controls on a site-by-site basis rather than pursuing blanket changes that may lead to an undesirable loss of the overall planning control of Downtown commercial development. However, Building Code regulations might impose more rigid constraints upon the development of smart offices and it is recommended that the Commissioner of Buildings and Inspections be requested to report on this matter.

Economic Development Issues: The future role of the Central Area

Apart from the somewhat more technical questions of development control raised by the prospect of an increasing demand for technologically advanced office buildings, the sub-studies also drew attention to a broader range of issues associated with the process of rapid technological change in the office sector that can be regarded as of general interest from an economic development perspective. These issues are discussed briefly below.

International competitiveness

From an international perspective the office market in the City of Toronto appears to be a very competitive and attractive one. Sub-Study Four, "A Comparison of Selected Office Markets", indicates that the City's office market is well balanced. Between 1975 and 1985 the supply of and demand for additional office space roughly matched. As a result vacancy rates were generally lower in Toronto than in other major North American office markets. In addition, rental rates per square foot of office space in the City compare favourably with rates charged elsewhere, although suburban Downtown differentials appear greater in Metro Toronto than in many of the other centres.

While the employment structure of the City is quite diversified (Table 1), evidence from the Downtown Employment Studies indicates that further employment growth will come largely

from the Financial and Business Services sector. However, this sector which consists of banks, investment and securities houses and insurance companies is undergoing rapid change in which the patterns of competition are being altered on a global basis.

Table 1
City of Toronto Employment Trends, 1981-1986

	Office	Retail	Services	Industry	Institution	Other	Total
1981							
Full-time	251,626	44,863	47,018	69,502	51,702	6,852	471,563
Part-time	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1982							
Full-time	255,245	42,147	43,457	59,835	50,802	6,909	458,395
Part-time	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1983							
Full-time	253,590	39,793	41,566	52,521	51,697	7,273	446,440
Part-time	10,898	12,534	8,889	2,482	6,782	3,876	45,461
Total	264,488	52,327	50,455	55,003	58,479	11,149	491,901
1984							
Full-time	267,961	36,447	42,184	52,400	51,444	8,096	458,532
Part-time	12,761	14,358	10,670	2,631	7,731	4,391	52,542
Total	280,722	50,805	52,854	55,031	59,175	12,487	511,074
1985							
Full-time	270,037	35,803	42,682	53,852	52,565	8,206	463,145
Part-time	14,026	14,870	12,247	2,767	92,26	5,933	59,069
Total	284,063	50,673	54,929	56,619	61,791	14,139	522,214
1986							
Full-time	277,232	35,736	45,160	49,950	56,384	8,731	473,193
Part-time	18,871	16,894	14,826	3,714	11,480	6,274	72,059
Total	296,103	52,630	59,986	53,664	67,864	15,005	545,252
1981-86 % Change							
Full-time	10.18	(20.34)	(3.95)	(28.13)	9.06	27.42	0.42
1983-86 % Change							
Full-time	9.32	(10.20)	8.65	(4.89)	9.07	20.05	5.99
Part-time	73.16	34.79	66.79	49.64	69.27	61.87	58.51
Total	11.95	0.58	18.89	(2.43)	16.05	34.59	10.85

Source: Metropolitan Toronto Planning Department

Note: Part-time employment counts were not included in the 1981 survey and were only included for half of all establishments in 1982

Between 1971 and 1985, approximately 71 percent of employment growth and 78 percent of office space growth in the City's Central Core was accounted for by an expansion of the financial services and business services sectors. Furthermore, the Hemson report on the "Outlook for Office Space and Employment in the Central Core" indicates that the largest proportion of employment growth and office space demand until 1991 will come from financial and business services.

However, these forecasts are being made at a particularly difficult time when financial deregulation is occuring across the globe. In London, for example, the deregulation of financial markets has resulted in increased competition, an influx of foreign firms, variable patterns of employment growth and a substantial increase in demand for office space to meet the requirements of banks and securities firms operating in the technologically intensive world of global finance. London is only now beginning to understand the economic and planning implications of these changes.

In Toronto, recent federal and provincial government legislation has also brought about deregulated financial markets. Preliminary indications are that Toronto will witness an increased foreign presence in securities markets. Already, several U.S. and Japanese firms have made their presence felt in the City. Secondly, significant merger activity among securities dealers has taken place. This type of merger activity is now occuring in Toronto as evidenced by the list of new investment dealer partnerships presented in Table 2. Both of these trends affect patterns of employment growth and the demand for office space. As of yet, however, precisely what these impacts might be is unknown.

Clearly, events in the City are linked to decisions made and events occurring elsewhere. It therefore seems important that we begin to understand the relationship Toronto has with other major centres in the world. Given the City's importance within the Canadian economy as an international financial centre, it appears important to monitor changes and trends in the financial services sector to determine how the City will continue to function in the global economy and to anticipate any planning policy changes that may be required in light of these trends. The Citycurrently hosts the Canadian headquarters of 60-70 foreign banks and is linked through the Toronto Stock Exchange and the sale of Canadian stocks to the international equities market. Given that it is anticipated that the largest proportion of employment growth and office space demand is likely to come from the financial services sector, events which may affect Toronto's relationship to global finance must be understood as they will have direct local economic and planning impacts.

Table 2
Recent Investment Dealer Partnerships

Original Firm	New Partner
Geoffrion Leclerc	Bank Indosuez (1986)
Housser & Company	Geoffrion Leclerc (Spring 1987)
Burgess Graham	Geoffrion Leclerc (Spring 1987)
McLean McCarthy*	Deustche Bank (July 1987)
Gordon Capital	CIBC (July 1987)
Midland Doherty	Gordon Capital (June 1987)
Walwyn Stodgell	Financial Trustco (June 1987)
Brown Baldwin	James Capell (June 1987)
Geoffrion Leclerc*	Laurentian Group (January 1987)
Nesbitt Thompson	Bank of Montreal (August 1987)
McLeod, Young, Weir*	Bank of Nova Scotia (September 1987)
Burns Fry*	Security Pacific (August 1987)
Marathon Brown*	Central Capital Corp. (Fall 1987)
Capital Group Securities*	Bank Indosuez (September 1987)
Gardiner Group*	Toronto-Dominion Bank (October 1987)
Dominion Securities*	Royal Bank (December 1987)
Bell Gouinlock	Pemberton Securities (Winter 1987)
Wood Gundy*	CIBC (January 1988)

Source: The Globe and Mail newspaper.

**Note:* *Not all deals have in fact closed. Regulatory approval may not have been obtained from either the Ontario Securities Commission (Province) or the Office of the Superintendent of Financial Institutions (Federal Agency)*

The Information Economy: Changing employment structure & information needs

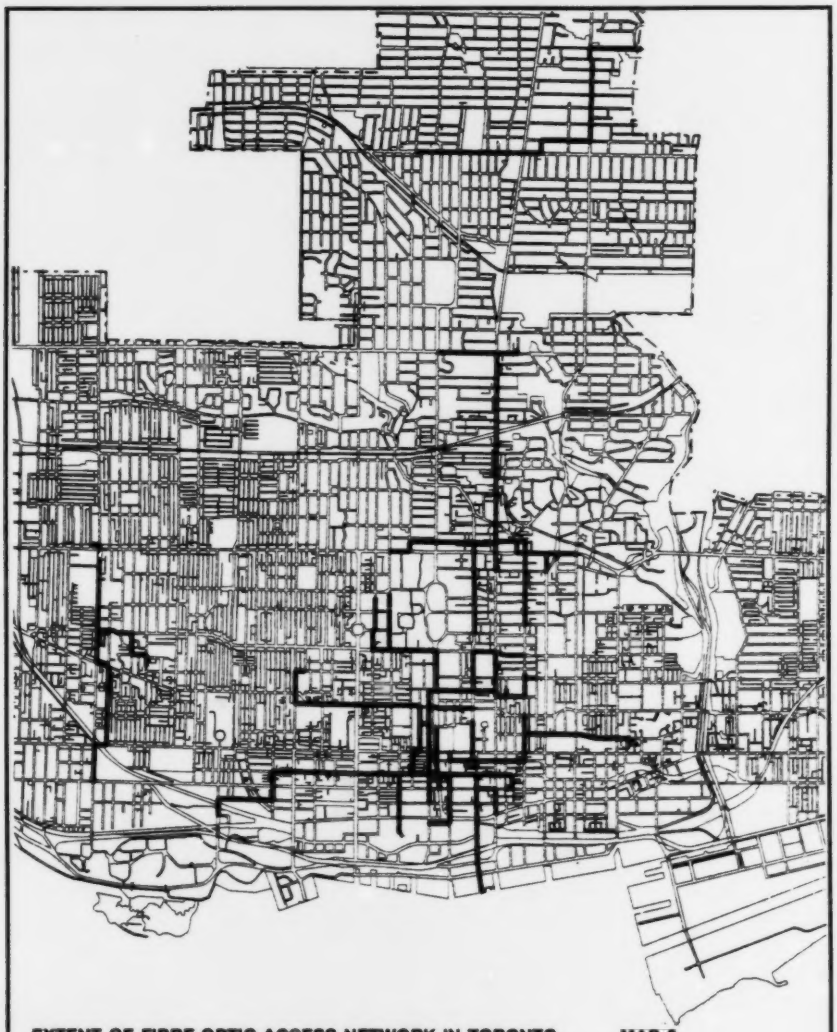
Increasingly noticeable in the literature related to local economic development is the concept of the "information city". As noted in various Background Papers to the Quinquennial Review, information has become a key resource in today's increasingly technologically advanced economy. The importance of information in the regional economy of Toronto is demonstrated by its employment structure. By 1981 fully two-thirds of those employed in the region were engaged in activities whose primary function revolved around the production, processing and distribution of information (1986 Quinquennial Review, Background Paper No. 2). Also, there has been the formation of a computer and telecommunications infrastructure which has paralleled these changes in employment structure. This phenomenon is by no means unique to the Toronto Region. Other cities have, however, used the combination of their employment structure and their telecommunications infrastructure to market themselves as telecommunciations and information hubs. To varying degrees these centres have been successful in portraying themselves as information cities in an increasingly information dependent world.

In examining the City's employment structure, it is probably not unlike others in North America where the information economy employs more than half of the labour force. From a telecommunications infrastructure perspective, however, things differ greatly between places. In New York, for example, much has been said about the teleport and fibre optic network linking Staten Island with lower Manhattan and Battery Park. It should be noted, however, that a significant fibre optic network with vast capacity links most of the City's financial district and midtown areas. New York and Toronto, in fact, stand out in terms of available fibre optic services, although much more seems to be known about New York's network.

Fibre optics offer the advantage of very high (1.544 kilobits per second) speed data transmission. Bell Canada's current access network in the City links virtually all of the financial district plus significant portions of the midtown area. Excluding trunk services, the access network consists of 25-30 kilometers of optical fibre cable which is only 20 percent used (Map 2). Clearly, significant capacity exists for information intensive users. Bell Canada's current philosophy is to expand the access network on a requirement basis or as demand warrants. To the extent to which development tends to follow infrastructure provision and based on the likelihood of increasing demand for fibre optic services in the future, the City should consider how it might best become involved in ensuring that the process of providing these services meets its development and planning objectives.

Further, the telecommunications infrastructure need not be assumed to be serving only the office sector. The primary function of teleports, for example, is to serve the information needs of the manufacturing sector. This is true of not only the Staten Island teleport in New York but also other teleport installations around the world. While a Telesat dish farm already exists in Toronto at the foot of Leslie Street, it has yet to be linked directly with manufacturing uses, although it is now linked to the fibre optic network serving the Downtown office community. The future development of the Toronto Harbour Commissioner's Teleport, particularly its extension to service industry, therefore warrants close scrutiny and an evaluation should be made of the City's possible involvement in helping to develop and promote such an expanded facility. This is particularly important in light of the City's desire to maintain a diversified economic base and a competitive manufacturing sector. Such an installation would allow City based manufacturers access to timely and accurate technical and market information which would enhance their competitiveness.

Awareness of and the introduction of a policy which encourages the expansion of fibre optic networks and teleports also provides an added dimension to the City's effort to market itself as a favourable environment for investment and a place to carry out business. In an increasingly information dependent world, demonstrating the current extent of the telecommunciations infrastructure in the City and a public willingness to adapt to technological change either through public involvement in telecommunications service provision and/or an enhanced marketing strategy might prove beneficial. Each of these aspects of an expanded economic development strategy require further study.



EXTENT OF FIBRE-OPTIC ACCESS NETWORK IN TORONTO **MAP 2**

SOURCE: BELL CANADA, 1987
REF. JOB No. 322/084223

PREPARED BY CITY OF TORONTO PLANNING AND DEVELOPMENT DEPARTMENT FEBRUARY 1988

Flagship Developments: Leading the way

An examination of the consultants' studies comprising the Downtown Employment Study reveals that the technological requirements of office sector firms have and will continue to change very rapidly. Furthermore, the studies demonstrate that these technological requirements find expression in the built environment in terms of the development of intelligent office buildings.

As discussed above, it appears that neither the current Official Plan nor the Zoning By-law seriously inhibit the establishment of intelligent buildings in the City. This does not, however, deny the fact that the market has yet to respond by constructing a single truly intelligent building in the entire Toronto region. In this one respect, the City may lag other major office centres of the world.

In New York and Tokyo, market forces have led to the construction of intelligent buildings such as the American Express Building and Toshiba headquarters. In Tokyo, however, efforts of the market are supported by public policy and the construction of, among other things, a new city hall featuring the most advanced characteristics of building intelligence. The proposed new Metro city hall or the CBC headquarters may provide the City with an opportunity for such a flagship development in Toronto.

In the wake of the Big Bang (the deregulation of financial services in the U.K.) the City of London has had to overhaul its development plan. In recognition of the technological requirements of the financial services sector, the City of London has withdrawn its previously restrictive development plan and has adopted one which is more sensitive to London's prominent role in global finance. The new plan adopted in May of 1986, provides a set of guidelines which the development industry there is encouraged to follow. These guidelines focus on floor plate sizes, floor-to-ceiling heights and interior flexibility - all essential elements of intelligent buildings (Appendix A).

It is not suggested here that such major changes are required to the City's Central Area Plan to encourage the development of technologically advanced office buildings. To a large extent, the market can be relied upon to provide the appropriate type and amount of office space within the framework of existing planning controls. However, accepting the fact that Toronto appears to be lagging in the development of smart office buildings, it may be appropriate to adopt a more promotional attitude towards this type of office development in order to enhance the City's image as a major, international financial centre. To some extent the current moves in the deregulation of financial services and the expected increase in the demand for intelligent office buildings associated with this process should, through natural market forces, provide the impetus for building new technologically advanced office space. However, the City should foster such growth if it is to maintain its position in what is becoming an increasingly competitive and international office market.

Other Issues Raised in Discussion

In the course of discussing the findings of the four sub-studies, the Steering Committee raised a number of other topics regarding Downtown employment and office floor space trends which were less directly related to the central theme of technological change. The Steering Committee considered it important to review a wider range of factors, including some identified in such recent reports as the 1986 Quinquennial Review and the first annual (1987) Central Area Monitoring Report. The following areas were identified for further study and analysis:

Diversity

Concern was expressed that the City should be mindful to maintain a healthy level of economic and social diversity in the Central Area. It was the impression of the Steering Committee that, although the Central Area has become increasingly specialized in the office sector, particularly in the fields of Financial and Business Services, there remains quite a diverse range of employment opportunities and types within the labour force. Also, increasing economic specialization appears to be an inevitable fact of life in the Downtown. However, the success of one particular sector should not be permitted to crowd out diversity in a self-destructive manner. Jane Jacobs in her famous book "The Death and Life of Great American Cities" states that:

> *"... most City diversity is the creation of incredible numbers of different people and different private organizations, with vastly differing ideas and purposes, planning and contriving outside the formal framework of public action. The main responsibility of city planning and design should be to develop - insofar as public policy and action can do so - cities that are congenial places for this great range of unofficial plans, ideas and opportunities to flourish ..." (p. 241)*

Consequently, the City should continue to pursue its policies of encouraging mixed-use development and the retention of industry in the Central Area in order to maintain a mix of primary uses and ensure an around-the-clock use of the Downtown. The City's monitoring process should identify the extent to which the goal of diversity is being achieved and suggest where government action may be required in this respect.

Critical mass

Related to the issue of diversity is the notion of a city achieving a "critical mass" in aggregate beyond which point development and growth become locked in. This idea has been expressed by Wilbur Thompson in his book "A Preface to Urban Economics" (1965) as the urban size ratchet. It is hypothesized that, at a certain range of urban scale, some growth mechanism, similar to a ratchet, comes into being, locking in past growth and preventing contraction. To quote Thompson:

> *"In sum, if the growth of an urban area persists long enough to raise the area to some critical size (a quarter of a million population?), structural characteristics, such as industrial diversification, political power, huge fixed investments, a rich local market, and a steady supply of economic leadership may almost ensure its continued growth and fully ensure against absolute decline - may, in fact, effect irreversible aggregate growth." (p. 24)*

However, it would seem that since the time of Thompson's book, changes in the economy have resulted in a larger threshold size requirement. Particularly, increasing centralization and specialization within the service sector has caused white-collar employment growth to increasingly locate in a smaller number of prime urban centres. For example, in the retailing sector, the recent trend has been to replace a number of regional administrative and purchasing centres by a single, centralized facility that is usually located in a major urban centre.

In terms of the Canadian economy, it would appear that the City of Toronto has achieved a primary position in the nation within a shrinking hierarchy of urban places. In this context, the City of Toronto is in the position to select, within limits, the rate and type of growth to be experienced in the future.

The more focussed issue raised by the Steering Committee was the threshold size necessary to establish an internationally significant information intensive commercial sector. This issue will be addressed as part of the work program on the effects of deregulating the Financial Services sector (Appendix E).

Office development, employment growth and traffic increases

Almost unavoidably, the Steering Committee's interest was drawn to the perennial question of the relationship between Downtown office development, employment growth and peak-hour commuting levels. These issues were addressed in the 1986 Quinquennial Review (QQR) and the 1987 Central Area Monitoring Program (CAMP) report and the highlights of these study findings are worth briefly reviewing here. First, it should be noted that accurate Central Area employment data only extends back to 1981 for full-time employment and 1983 for both full and part-time figures. Accurate floor space data, on the other hand, extends back to 1976 and traffic data for the Central Area cordon is readily available from the 1950s onwards.

Appendix B, contains among other things, a series of figures and tables showing changes in Central Area office floor space, employment and inbound peak-period (7:00 - 9:00 am) trips over the 1975-1987 period. It should be noted that the 1987 employment figures are preliminary estimates and could be subject to change. As pointed out in the 1986 QQR, these data reveal two separate or distinct periods which have emerged over this 13-year time span.

First, is the period between 1975-1981, when the expected relationship between floor space and trip growth roughly held up. During this period an 18% increase in office space was accompanied by a 15% increase in peak-period, inbound passenger trips into the Central

Area. Employment figures are difficult to compare over this period but, in general terms, it appears that strong gains in office employment were largely off-set by losses in other employment sectors, notably industry and warehousing.

In the 1980s, however, the picture appears very much different and only a very weak relationship between floor space growth and increases in employment and peak-period trips can be discerned. Over the 1981-1987 period, office floor space increased by almost 20% while peak-period, inbound trips showed only a modest 2%-3% gain. Office employment over this period actually declined during the 1981-1983 recession and much of the recovery since has been in part-time employment. Only over the 1986-1987 period was there a significant gain in full-time office employment and, although this was accompanied by a record-breaking (1986 - 1987) lease-up of 3.3 million square feet of Central Area office space, the number of peak-period inbound trips actually declined marginally.

These trends are illustrated by the various data presented in Appendic B. Figure B-6 is of particular interest and shows the relationship between trends in occupied floor space and trip growth in the Central Area over the 1975-87 period.

In addition to illustrating the growth in built and occupied floor space, Figure B-1 also indicates an upper limit on development potential in the Central Area of around 106 million square feet. This limit represents the total amount of office space that could be reasonably built in the Central Area under existing planning controls, though in theory with the redevelopment of such areas as Osgoode Hall or St. James Cathedral this figure could be higher. With approximately 63 million square feet of office floor space already built, the Central Area Plan currently allows a further 43 million square feet of office space growth (on the assumption of the 106 million square feet "reasonable" upper limit).

It is this potential for further growth that gave concern in the 1986 QQR over the need for long-term transportation improvements in the Central Area. It was recommended that these improvements be made on the basis of the careful review and monitoring of unfolding road and transit conditions. Figure B-6 illustrates the difficulties of predicting Central Area land use/transportation relationships in the 1980s and, under the present conditions of uncertainty, an incremental approach to transportation planning, which gives greatest priority to the most pressing needs, is thought to be the wisest.

Other reports have discussed at some length the possible reasons for the apparent lack of a discernable relationship between office space growth, employment growth and changes in peak-period commuting levels to the Central Area in the 1980s. What are thought to be among the more important reasons are briefly listed below:

(a) **Economic factors** - office employment growth is directly related to the performance of the economy as a whole. The level of development activity, on the other hand, is largely a reflection of prevailing economic conditions and is not, itself, the determinant of office employment and trip growth. For example, much of the explanation for the only modest increase in Central Area full-time employment over the 1981-1986 period is attributable to the impacts of the 1981-1983 recession: such swings in economic fortunes are obviously very difficult to forecast.

(b) **Technological change** - the introduction of computers and telecommunications is changing the Downtown office employment structure in ways that are difficult to predict. For example, there is evidence to suggest that the Downtown is becoming increasingly specialized in managerial and professional functions, while "back office" activities (such as routine clerical functions and data processing) which employ the majority of office staff are increasingly moving to cheaper suburban locations. Consequently, future Downtown employment growth may become increasingly dependent upon a smaller "executive" office sector with higher office space requirements and less defined travel behaviour patterns.

(c) **Growth or change?** - considerable development may continue to occur despite a relative slowdown in the rate of Central Area office employment because of such factors as increasing floor space per worker (FSW) ratios and the increasing need for modern technologically advanced office space in "smart" buildings. In this context, change and adaptation in the supply of office space can sometimes be confused with growth in employment.

(d) **Non-office sector** - employment declines in the non-office sectors (particularly industry and warehousing) may continue to partly off-set increases in Central Area office employment, as happened over the 1981-1986 period. It should be noted, however, that manufacturing and warehousing space close to Downtown has been increasingly renovated over the past few years. This, in turn, has shifted employment from traditional manufacturing to other sectors such as data processing, fashion and the arts, etc. While some activities are considered by the City as industrial, many have office components and many be classified by Metro as office employment.

(e) **Residential growth** - the Central Area is expected to continue as an attractive location for private residential development and is forecast to be one of the few areas in Metro that will experience significant population and labour force growth. To the extent that homes, as well as jobs, can continue to be developed in the Central Area, the demands for future in-commuting can be reduced. Survey results indicate a significant increase in the number of people walking to work in the Central Core over the 1981-1986 period. This is associated with a substantial increase in new Central Area housing units over this time. (This important aspect of Central Area development is discussed more fully in a separate section below.)

(f) **Congestion as a limit** - one reason sometimes advanced for explaining the lack of a significant increase in peak-period commuting over the last several years is that the Central Area transportation system is already operating at capacity. There may be a degree of truth in this proposition, particularly with respect to the road system. The figures show that the rate of trip increase has been greater over the two-hour morning and evening peak-periods than in the single peak-hours, which is evidence of a spreading of the peak-hour as congestion increases. However, it should be noted that Central Area cordon count data reveal 1979 and 1981 to be the peak years for rush (single or two) hour travel on the road and subway systems respectively which means current congestion levels on these facilities are, in fact, less than have been experienced in the past. Interestingly, GO Transit has been the one mode to show continuous, steady growth in peak-period ridership over the entire 1975-1987 period.

In review, the land use/transportation balance and the resulting level of congestion was seen by the Steering Committee as one particular, albeit important, aspect of the general "tension" that results from the growth of a healthy city. It was agreed by the Steering Committee that the City has been largely successful in managing its growth over the last decade and that, in particular, the rate of office development and levels of congestion remain within acceptable limits. There was also a broad concensus that government's role should be to maintain the City's competitive edge in the world marketplace and to provide the framework for planned growth into the future. However, the Steering Committee recognized that, along with congestion, there are other major concerns that have to be addressed in charting the Central Area's future course. Principal among these are the need to maintain diversity, provide affordable housing, safeguard the environment and enhance the health of both those living and working in the Central Area. With respect to environmental and health concerns, particular note was made of the current waste disposal crisis in Metro which could prove to impose a stronger limit on the rate of growth in the Central Area than transportation capacity and other more traditional concerns.

A statement of goals for the Central Area

In discussing the "tensions" associated with Central Area growth, the Steering Committee raised the possibility of trying to define explicit goals for the future of the Central Area. Such goals might, perhaps, be capable of summation in the form of what is sometimes referred to as a "mission statement". A large part of the discussion of this matter hinged upon the question of how competitive the Central Area should strive to be and what place in the urban hierarchy the City should aim for - a major world City, the prime national centre or a regional centre. Obviously, there are no clear-cut answers to this type of broad philosophical question and, in many ways, the choice among alternative futures is a political issue that has to be resolved through the democratic process. In addition the legislative instruments available to the City to achieve such ends are limited.

The 1986 QQR pointed out that the current Central Area Plan essentially expires in 1991 at which time a new framework for planning the Central Area has to be developed and brought into place. The QQR outlined a number of studies of important policy areas that the City Planning and Development Department will be carrying out in preparation for the new 1991 Plan, including an early report on the process by which the final planning recommendations will be brought forward. This report will be forthcoming shortly and will respond to the need to promote a full discussion of what the alternative futures for the Central Area are. The 1991 Plan, if it is to be successfully received, cannot simply be the result of a series of technical planning reports. By and large, such reports only set the scene for a larger public debate and political airing.

In a highly pluralistic society such as ours it is questionable whether a planning process designed to foster public debate can lead to a unanimously acclaimed vision for the Central Area. However, by soliciting a wide range of opinion and advice, the recommendations of the new 1991 Central Area Plan, can only be made stronger and more reflective of the diverse interests that make up the City. It is this diversity of interest that must be retained and strengthened. In fact, the work of the Steering Committee is already contributing to this process of public debate leading towards the 1991 Plan. The Steering Committee has

identified a number of key parameters that have to be included in this debate and has recommended where further study in certain areas is required.

Housing in the Central Area

The mixed-use policies of the Central Area Plan have succeeded in promoting new housing development with the result that the Central Area is now the strongest area of population growth within the City. Over the 1976-1985 period, nearly 17,000 new housing units were added to the Central Area, with many of these in the Central Core area.

Over the 1976-1986 period census data indicate that the total number of households in the Central Area had increased by 18,326 - up 38.6% from 47,430 in 1976. This has resulted in a population increase of 19,468 persons - up 17.2% from 113,262 in 1976.

The population of the rest of the City of Toronto continued to fall over the 1976-86 period, down 41,497 or 8.0%, in spite of an increase of 8,099 households (4.4%). The rate of population decline in the Outer City has slowed since 1981, but continues to decrease nonetheless.

The Central Area's share of total City population has grown from 17.9% in 1976 to 21.7% in 1986 and its share of total City households has increased from 20.6% in 1976 to 25.6% in 1986 (Table 3).

Table 3
Household and Population Change
Central Area and City 1976-86

Location	1976		1986		Change 1976-1986			
	Popn	Hshlds	Popn	Hshlds	Popn	%	Hshlds	%
Central Core	19,899	11,600	29,551	19,568	9,652	48.5	7,968	68.7
Outer Central Area	93,363	35,830	103,179	46,188	9,816	10.5	10,358	28.9
Total Central Area	113,262	47,430	132,730	65,756	19,468	17.2	18,326	38.6
Outer City	520,056	182,950	478,559	191,049	-41,497	-8.0	8,099	4.4
City of Toronto	633,318	230,380	611,289	256,805	-22,029	-3.5	26,425	11.5

Source: Census of Canada

Future projections call for continued residential development in the Central Area and, with an above average labour force participation rate, many of the new people living in the Central Area will also be in the work force.

As a result of these recent trends, Metro planners have revised their aggregate forecasts of travel patterns into the Central Area with quite startling results. The original forecasts, using what is termed the GO-ALRT "A" land use scenario, assumed only a 30,000 increase in Central Area population over the 1984-2011 period. However, the revised estimates, labelled the M1-85 forecasts, assume a 70,000 population increase over this period and this results in a doubling of the predicted increase in the number of Central Area work trips that originate within the Central Area itself (from a 7,000 increase under GO-ALRT "A" to a 15,000 increase using the M1-85 projections).

Consequently, future travel estimates predict that most of the growth in work trips destined to the Central Area will either be from within the Central Area itself (15,000 increase) or from the areas beyond Metro (22,000), with little increase from the rest of Metro (1,500). These figures are presented in Table 4 and Figure 1, and clearly indicate the impact that new residential development in the Central Area can have in reducing commuting levels into the Central Area from areas outside. In fact, the impacts of increased Central Area population are already being reflected to a degree in the recent levelling out of the number of peak-period trips crossing the Central Area cordon, as illustrated in Figure B-5. The future rates of Central Area population and labour force growth will be key factors to monitor in the future when assessing the area's transportation needs.

Table 4
Comparison of Travel Demand forecasts for the Central Area
(morning peak hour total person trips to the Central Area)

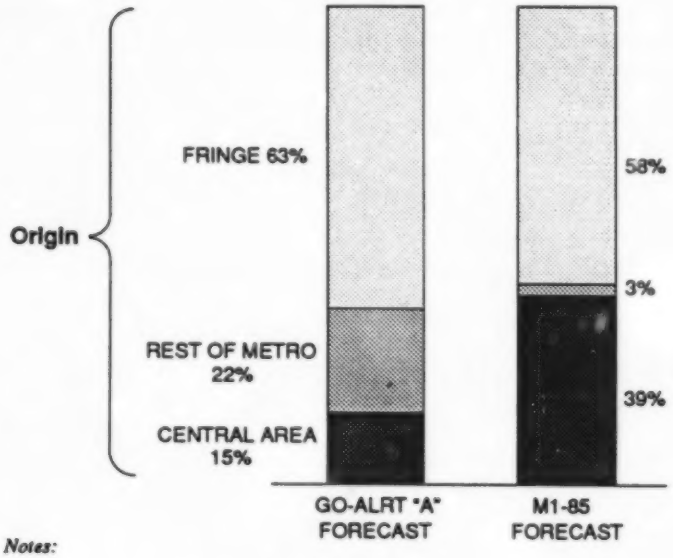
		GO-ALRT"A"		M1-85	
From	1981 Simulated Demand	2011 Demand	Change 1981 -2011	2011 Demand	Change 1981 -2011
Central Area	26,750	32,550	5,800	41,700	14,950
Rest of Metro	126,850	135,250	8,400	128,000	1,150
Outside Metro	21,150	45,800	24,650	43,800	22,650
Total Trips	**174,750**	**213,600**	**38,850**	**213,500**	**38,750**

Source: Metro/TTC "Network 2011: Final Report" (June 1986)

Supporting these observations, the results of the surveys of the work-trip patterns of Central Area residents conducted by the City of Toronto Planning and Development Department in 1981 and 1986, show a substantial increase in the number of people who live in the Central Area and work in the Central Core. From the surveys, it was estimated in 1981 there were approximately 7,200 such walk-to-work trips made regularly on an all-year round basis, with this figure increasing to 11,100 by 1986.

In discussing these findings, the Steering Committee raised the issue of developing additional policies that would explicitly aim at expanding the population of the City as a whole in order to improve the overall balance between jobs and people. By placing more people closer to the region's major employment centre, the Downtown, the greater are the opportunities for people to live and work locally without the need for long-distance commuting. In 1971, the City's population stood at 713,000 but today it is a little over 600,000 despite recent population increases in the Central Area and a significant increase in the overall number of households in the City. Given that the City once accommodated over 700,000 people and that the infrastructure that supported this level of population remains largely in place, there could be considerable benefits to trying to promote population growth back to the 1971 level and possibly beyond. However, given the radical changes in the City's household structure and consumption patterns over the last 20 years this proposition would have to be researched further before definitive conclusions can be drawn.

Figure 1
Origin of Future Peak Hour Trip Growth into the Central Area
1981 to 2001



Notes:

1. Total Trip Increase 38,000 for both forecast methods.

2. The above figure depicts the projected origins of additional work trips to the Central Area over the 1981-2001 period. The M1-85 figures are a revision of the earlier GO-ALRT "A" projection. The M1-85 projection shows that a much higher proportion of future Central Area jobs are now forecast to be held by persons living in the Central Area.

In pursuing these ideas in a slightly different direction, the Steering Committee requested City planning staff to explore the impacts of substituting investments in transportation improvements into the Central Area for investments aimed at encouraging new housing development in the Central Area. Government housing subsidies can be used to stimulate

new housing production and/or influence its affordability. The past emphasis in the City of Toronto has generally been to use subsidies to reduce housing costs. However, given the Steering Committee's focus on transportation impacts, the principal interest here is in the stimulus government funding might provide to the net supply of new housing units.

Even with this relatively narrow focus on the use of housing subsidies, there is the immediate difficulty of determining the level of subsidy required to achieve the production of one net additional housing unit. For the purposes of this report, this question is simply answered by an educated guess. On the basis of such an estimate, a subsidy level of $25,000 per net additional housing unit is assumed in the calculations presented in Appendix C where an example of the possible reduction in commuting levels resulting from an increase in the supply of Central Area housing is presented.

The results of the brief analysis presented in Appendix C suggest that, on average, the addition of 1,000 housing units in the Central Area might be expected to result in an increase of approximately 800 people both living and working locally, without the need to commute into the Central Area. At an assumed subsidy level of $25,000 per new housing unit, this result could be achieved at a capital cost of $25 million in government housing funds. Ignoring any consideration of operating costs, these figures present the rough parameters by which to compare the benefits of investing in housing with the benefits of investing in transportation improvements.

However, it should be remembered that the principal benefit of the housing subsidy will be in the shelter that new homes provide their occupants. To this may be added the benefits brought to the Central Area by reducing commuter levels, increasing the diversity of land uses and, perhaps, enhancing the overall attractiveness of the City as a major office employment centre. Given the significance of increasing the supply of housing and the level of population in the Central Area, it is recommended that further work be undertaken to expand upon the analysis of Appendix C and to further explore the interaction between homes, jobs and transportation demands in the Central Area.

Conclusions

The Downtown Employment Studies were primarily initiated to investigate the growth prospects of the Central Area office sector in terms of employment and floor space, with particular attention being given to the impacts of technological change.

The Hemson report predicted that office employment and floor space in the Central Core would grow at relatively moderate rates over the 1986-91 period. Total employment was forecast to increase by approximately 24,000 jobs over this period (or 1.8 per cent per year), with the Financial and Business Services sectors of the office community being the primary growth areas. Accompanying this employment increase, it was estimated that office floor space would increase by 6.8 million square feet over the same period. However, unlike the 1975-85 period, when a large proportion of the increase in office space was accounted for by a rising floor space per worker (FSW) ratio, the Hemson study expected that the 1985-91 floor space increase will be more closely tied to employment growth, particularly in the Financial Services sector. As a corollary, only a modest increase in the FSW ratio is expected over the next five years.

The Pinker Study on the impacts of technological innovations and the development of so-called "smart" or "intelligent" office buildings demonstrated that technological changes are having a major effect on the office sector at a worldwide scale. The new technologies are in widespread use in the City's office sector although no example of a truly intelligent office building currently exists in the Metro Region today. In addition, the Pinker Study indicated that the Financial and Business Services sectors are, and will continue to be, the most intensive users of new office technologies. Given that these "high-tech" office sectors are also those of highest expected employment growth, it follows that there could be increased demands for smart office buildings in the Central Area.

Royal LePage also undertook a study to test the hypothesis that investment in the office development industry was being over-stimulated by funds from "patient money" sources (primarily pension and life insurance funds). The study discounted the notion of "patient money" playing any significant role in distorting the supply of office space in the Central Area. Generally, institutional investment funds were found to be no more "patient" then any other types of investment in office development. However, the study did not look at foreign investors some of whom, it was felt by members of the Downtown Employment Study Steering Committee, appeared willing to pay more for Canadian commercial real-estate than local investors based on the belief that Canadian real-estate is under-valued by world standards and will adjust upwards, in the long-run, to match world prices.

During the course of the Downtown Employment Studies a number of issues were discussed between members of the Downtown Employment Study Steering Committee, City staff and the consultants. These discussions led to the identification of a number of additional concerns related to the main study themes of office employment and the impacts of technological change. These concerns are discussed briefly below.

At the more local level, concerns were expressed over the possible need to amend current planning policies and controls to accommodate or promote the development of smart office

buildings. These buildings are characterized by the need for large floor plates and high ceilings, plus other features such as increased security and the provision of roof-top telecommunications equipment. Although these design features may present certain planning problems related to such matters as massing, micro-climate, public access, open space and historical preservation, it was felt that the current planning process has sufficient flexibility to allow the sensible accommodation of smart buildings without the need for major zoning or official plan changes in the Central Area. However, the question of possible changes to the Building Code requires further study.

A broader, less definable set of concerns related to a number of matters which could be loosely termed as being of an economic development nature. Recognizing that the future strength of the Cental Area's office sector appears to rest increasingly on growth in Financial and Business Services activities, concerns were raised over the impacts of financial deregulation both in Canada and elsewhere. As a result of deregulation, there are already indications of an increased international presence in the Toronto securities market and an increase in merger activity among securities dealers. These and other related changes are affecting both the structure and rate of Downtown employment growth and are drawing the City's role as a major financial centre into an increasingly internationally competitive world. To some extent the experiences of London, Tokyo and New York in responding to varying degrees of financial deregulation might provide useful insights into the emerging situation in the Central Area office market. Such a comparative analysis may represent an area where further study is justified.

Apart from the particular concerns over the impacts of financial deregulation on the Finance and Business Services sectors, it also became clear that new office technologies are generally contributing to the development of an increasingly complex operating environment for many of the Central Area's other major office users. Increasingly, events in the City are linked to decisions made and events occuring elsewhere. It therefore seems important to develop a better understanding of the broader economic and social relationships that Toronto has with other major centres in the world. For example, a study along these lines has been recently completed for New York by the Regional Plan Associates entitled "New York In The Global Economy: Studying The Facts and The Issues" (April, 1987) which examines such matters as international capital market functions, world trade in commodities and services, urban labour markets and the infrastructure needs of the information economy.

In addition to pursuing a better understanding of Toronto's global linkages, it may also be appropriate to review the future possible need for government action in promoting the City's role as a major international centre of commercial activity. This report has raised two such areas of possible action. The first relates to the appropriate role of government in increasing the awareness of and facilitating the effective development of the City's telecommunications infrastructure as it relates to the provision and availability of such services as fibre optic networks and teleports. In an increasingly information dependent world, demonstrating the current extent of the telecommunication infrastructure in the City and a public willingness to adapt to technological change either through public involvement in the provision of telecommunications services and/or an enhanced marketing strategy might prove beneficial. A second possible area in which the City might become more explicitly involved is in the encouragement of the development of new, technological advanced or "smart" office buildings. Such flagship developments would help promote the City's image as a major, world office centre.

The Downtown Employment Studies have contributed to an extension of the investigations undertaken as part of the 1986 Quinquennial Review of the Central Area Plan and, in particular, have addressed in more detail the issue of the impacts of technological change on the Downtown office sector. As a result of the recommendations of the 1986 Quinquennial Review, City Council has adopted in principle an expanded Central Area monitoring system which will include such additional factors as:

1. annual reviews of changes in full and part-time employment by type and sub-area;

2. changes in the size and composition of the Central Area labour force;

3. impacts of technological change on the composition of the office work force and the demand for new office floor space; and

4. intra-urban migration of firms and the impacts of continued industrial and occupational restructing.

This expanded monitoring system will enable a broader monitoring of economic trends affecting the Central Area and provide an enhanced data base for future planning decisions during the current period of rapid technological change and economic uncertainty. However, the Downtown Employment Studies have identified a number of areas related to the theme of economic development that extend beyond the topics considered in the 1986 Quinquennial Review and to which the City may wish to further direct its attention. Four matters relating to the maintenance of the City's competitive position as a major, world centre have been identified, namely:

1. an assessment of the impacts of financial services deregulation on office employment and floor space growth in the Central Area;

2. a need to better understand the City's global linkages both in the financial world and in a broader economic and social context;

3. an evaluation of the City's role in the promotion and development of an effective and attractive telecommunications infrastructure (fibre optics and teleport facilities) in the Central Area; and

4. greater city involvement in encouraging the development of "intelligent" office buildings as flagship developments to promote the Central Area's image as a major and technologically advanced world office centre.

Of these four areas, the first, which relates to the study of the impacts of deregulation on the Financial Services sector, is regarded as the most important. As a consequence, this report recommends, as a first step, a sectoral analysis of the Financial Services sector in Toronto. A proposed work program for this in-house study is outlined in Appendix D. To some extent, the findings of this study program might largely determine the extent to which the other areas of enquiry are worth pursuing. It may seem paradoxical, under the current boom conditions

in Downtown office leasing, to raise as a concluding note the need for further actions to promote the City's competitive position in the office market. However, as discussed earlier, the pattern of office development in the Central Area is likely to exhibit a cyclical nature. The present boom appears attributable, to a certain extent, to the deregulation of financial services which has led to increased office space demands in the Central Area resulting from the emergence of new and the expansion of existing foreign banks and investment houses.

However, it would seem unrealistic to expect that the absorption rates of the last eighteen months will be sustained over the longer-term. At present the Downtown market appears "over-heated" and this could eventually lead to an over-supply situation and a return to higher vacancy rates for office space. Given increased uncertainty, complexity and competitiveness in the office economy, it would be a mistake to become overly complacent about the future growth prospects of the Central Area. It appears that considerable changes are occuring in the Downtown office employment structure and in the type of office space required in the future. Most notably, future Downtown office employment and floor space growth appears to be increasingly dependent upon the expansion of the Financial and Business Services sectors which are particularly susceptible to cyclical patterns of growth and the vagaries of world trends in financial markets.

In the course of placing the debate on the impacts of technological change into the broader framework of the future of the Central Area as a whole, the Steering Committee raised a number of more general issues related to the growth of the Downtown. The principal theme of this general debate was the question of how to balance the "tension" between maintaining the City as a competitive international centre of commerce while keeping it an attractive and affordable place for a wide variety of people to live and work. It was generally agreed that the City has been successful in managing Central Area growth over the last decade. However, it was recognized that there will be a continued need for government to balance the sometimes conflicting needs of strengthening the economic competitiveness of the Central Area while, at the same time, addressing such wider social concerns as: maintaining diversity; providing an adequate supply of affordable housing; keeping congestion at acceptable levels; adequately protecting the physical environment, and ensuring the health and well-being of those living and working in the Central Area.

In large measure, these general issues had already been anticipated and will be addressed by the City Planning and Development Department as part of the study program outlined in the 1986 Quinquennial Review as preparation for the development of a new or revised Central Area planning framework for 1991. However, the Steering Committee's discussion of the "tensions" that result from healthy urban growth, helped focus attention on particular policy areas (such as housing goals and population policies for the Central Area) and gave greater definition to some of the important elements to be included in the forthcoming technical, public and political debates from which the new 1991 Central Area Planning framework will emerge. In this context, the Steering Committee has played a significant part in initiating the 1991 Central Area Plan Review process. The City Planning and Development Department will shortly be releasing a report which outlines in greater detail all the steps involved in this review process.

Recommendations

1. That the Commissioner of Planning and Development be requested to report back to the Economic Development Committee on a sectoral analysis of the Financial Services Sector in Toronto as outlined in Appendix D.

2. That, in recognition of the significance of "intelligent" office buildings and the importance of retrofitting the existing office stock in the Central Area, the Commissioner of Buildings and Inspections (in consultation with the Commissioner of Planning and Development), be requested to report to the Land Use Committee on any regulations in the Building Code which may impose restrictions or impediments to the construction of new intelligent office space and/or rehabilitation of existing space.

3. That the Commissioner of Planning and Development report to the Neighbourhoods Committee on an expansion of the analysis presented in Appendix C of this report, with particular reference to comparing, from a transportation planning perspective, the comparative benefits of investments aimed at encouraging new housing development in the Central Area versus investments in road, rail and transit improvements serving the Central Area.

4. That the Commissioner of Planning and Development include in the work program for the preparation of the 1991 Central Area Plan consideration of:

   (a) balancing the "tension" between maintaining the City's competitive position in the world market place and keeping the City an attractive and affordable place for a diversity of people to live and work, and

   (b) the interaction among homes, jobs and transportation demands in the Central Area and the appropriateness of introducing policies aimed at expanding the population of the City.

5. That the Toronto Hydro Electric Commission be requested to report to the City Services Committee on any implications this report may have on electrical demand forecasts for the Central Area of Toronto with particular reference to assessing the electrical needs of "intelligent" office buildings and any limitations that their electrical requirements may have on future office developments in the Central Area.

6. That copies of this and the consultants' reports be distributed to Toronto Hydro, the Public Works Department, the Buildings and Inspections Department, the Planning Advisory Committee and the City Solicitor inviting comment on any aspects of this report which may affect their areas of responsibility.

7. That, following the 1985 Municipal Election, City Council re-constitute this special Sub-committee of the Economic Development Committee as part of the review process leading to the development of the new 1991 Central Area Plan as submitted in the City's 1986 Quinquennial Review.

Appendix A

City of London Local Plan

In May, 1986 the City of London released a new Official Plan in anticipation of London's "Big Bang" which occurred in October, 1986. The new plan aimed to promote substantial office development in the City and removed many of the restrictions of its previous 1984 plan which was based on extensive preservation of existing physical character.

The 1986 City of London Local Plan is based on a strategy which has the following general aim:

> *"Whilst ensuring that policies in the Plan are consistent with the proper planning of Greater London and the country as a whole, to promote the continued development of the City as a leading International Financial Centre and, at the same time, to improve living, working and travelling conditions (including social and leisure facilities) and to enhance the environmental qualities of the City."*

Differences between the approach of the City of London Local Plan and the City of Toronto Official Plan are dramatic, as illustrated by the following excerpts from the London Plan:

Office development

3.14 **Policy Econ 1**

To encourage office development in order to maintain and expand the role of the city as an international financial centre.

Flexibility

3.15 **Policy Econ 2**

To encourage office development which meets the requirements of new office technology and which is flexible to cater for variations in office layout and use.

3.16 Offices are the predominant land use in the City forming 6.1 million square metres (65.5 million square feet), 68% of all floor space. They provide accommodation primiarly for the financial sector with banking (32% of office floor space), insurance (17%) and other financial activities (7%) being the major occupiers. For the City to continue and expand as an international financial centre it must be able to provide accommodation that meets the changing needs of the financial services sector. The Corporation intends that office development be encouraged so as to cater for these requirements.

3.17 While precise forecasts of demand for office floor space are difficult to make, there are indications that additional floor space will be needed to cater for future requirements.

Since 1980 the City office market has been buoyant with increased lettings (+17% in 1984) resulting in a decrease in vacant office floor space. The amount of office floor space for which permission has been granted, but where the development has not been completed, "the office pipeline", has not decreased and is substantial. But there is currently unsatisfied demand for large unit floor space capable of handling the requirements of new technology. As mentioned in para 3.2 international trade in financial services is expanding, with the City seeking to increase its share in all areas. In combination with this, new technology in information handling and communications is giving rise to new developments in the design and layout of offices.

3.18 At the general level, the accommodation of computer and communications hardware, including cabling, screens, and power supplies, requires office design to meet certain specifications. While particular activities carried out in offices may require different arrangements, there are two general requirements. Firstly, floor to floor heights should be capable of accommodating cabling and ducting equipment. It has been suggested that a minimum of 4.27 metres (14 feet) floor to floor is needed with raised floors and false ceilings. Secondly, the office environment requirements of both the equipment and the users need to be met in terms of heat, light, humidity, etc. Air conditioning of offices and computer installations, and the lighting requirements of screen users, are examples of the aspects that need to be considered. Stand-by power generation is also becoming important to safeguard operations against power breakdowns.

3.19 A particular kind of office requirement is also evolving. The demand for dealing rooms having column-free open floor areas is expected to increase, and the "deregulation" of financial activities will increase the potential for trading through dealing rooms. Visual contact across the floor (which may be tiered), enables signalling between dealers, while screen transfer of deals may be made direct to back-up staff located in a different room or building. In addition to the general requirements outlined above, the air conditioning and lighting requirements of a 2,320 square metres (25,000 square foot) room containing up to 400 people using screens and heat producing equipment pose particular design problems.

3.20 Much of the existing office stock in the City is unable to accommodate the requirements of the modern office-user. Although many Victorian and Edwardian buildings with high ceilings can be adapted as small offices, and some may be able to provide large units behind retained facades, many of the 1960s office buildings pose restrictions such as low ceilings and concrete structures with frequent columns and beams. The Corporation will welcome new office development capable of accommodating the changing requirements of the City's office users.

3.21 When encouraging office development the Corporation will still have regard to the other activities that contribute to the functioning of the city as well as its unique historic and architectural heritage which also plays an important part in making it an attractive location for businesses.

Appendix B

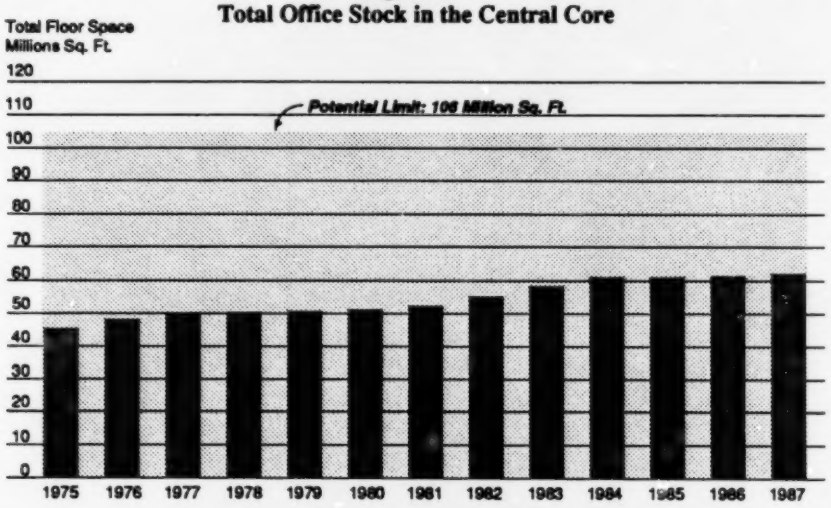
Table B-1
Office Floor Space, Employment and Trip Trends in the Central Core and Central Area Cordon, 1975-1987

Year	Central Core Total Office Space[2] (mill. sq. ft.)	Central Core Occupied Office Space[3] (mill. sq. ft.)	Central Core Vacancy Rate[4] (percent)	Full-Time Total Employment[3] (Central Area Cordon)	Full-Time Office Employment[3] (Central Area Cordon)	Peak Period Person Trips[5] (Central Area Cordon 7-9 am)
1975	45.90	41.77	9.00	[6]306,000	[6]149,000	214,187
1976	48.60	43.55	10.40			
1977	50.70	45.88	9.50			222,257
1978	50.90	47.54	6.60			
1979	51.30	49.15	4.20			228,312
1980	52.00	51.06	1.80			
1981	52.70	51.59	2.10	303,000	194,000	246,827
1982	55.80	52.84	5.30	295,000	191,000	
1983	59.00	53.22	9.80	296,000	194,000	244,615
1984	61.60	54.21	12.00	302,000	202,000	
1985	61.60	55.50	9.90	304,000	201,000	236,289
1986	62.30	57.44	7.80	311,000	207,000	258,207
1987	63.00	60.80	3.50	[1]326,000	[1]217,791	251,669

Notes:

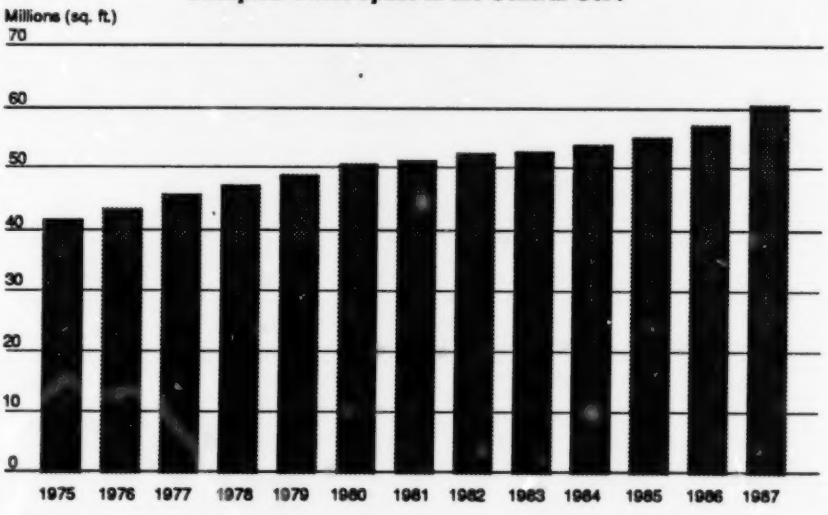
(1) Figures are preliminary estimates subject to change
(2) Source: City of Toronto Planning and Development Department - Land Use Information System
(3) Derived from Total Office Space less Vacant Space
(4) Source: Royal LePage
(5) Source: Central Area Monitoring Program (CAMP)
(6) Estimates

Figure B-1
Total Office Stock in the Central Core



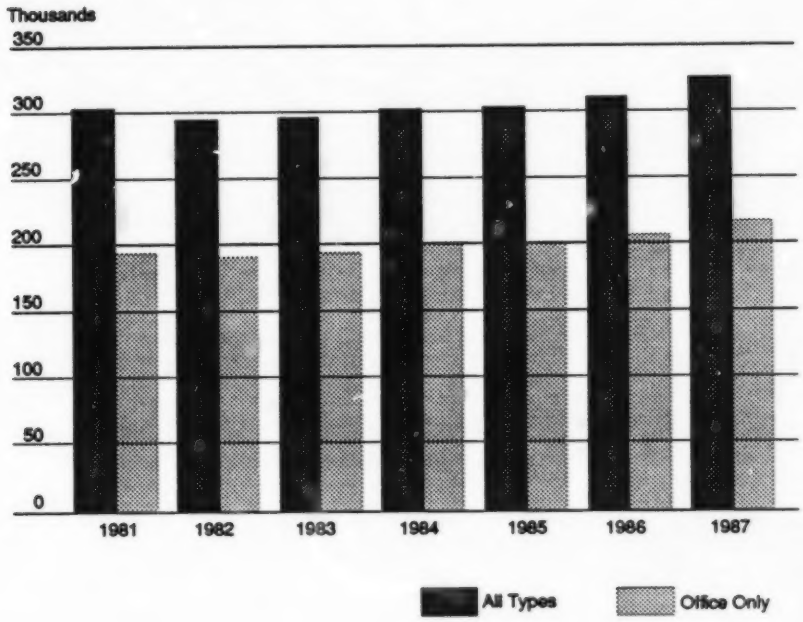
Source: City of Toronto Planning and Development Department
Land Use Information System

Figure B-2
Occupied Office Space in the Central Core



Source: City of Toronto Planning and Development Department
Land Use Information System and Royal LePage

Figure B-3
Employment Trends (Full Time) in the Central Area Cordon



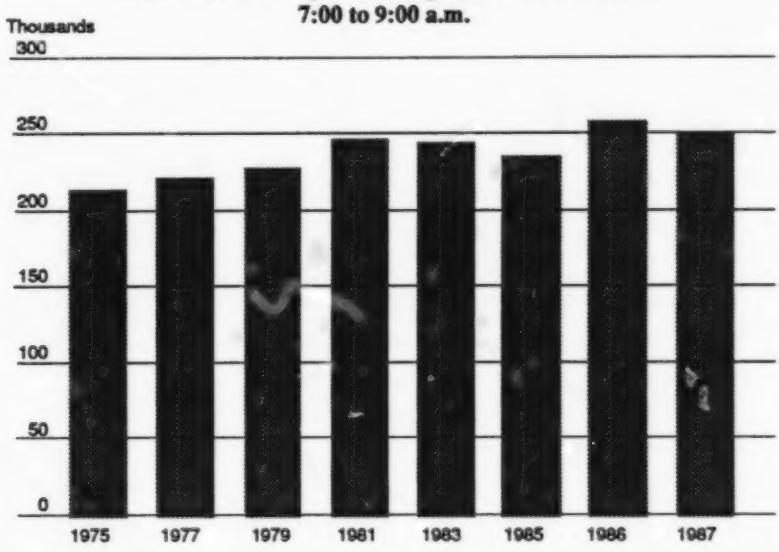
Source: Metro Employment Survey

Table B-2
Inbound Person Trips Crossing Central Area Cordon
7:00 a.m. - 9:00 a.m., 1975-87

	Total Persons	Auto and Taxi	Transit	GO Rail
1975	214,187	79,506 (37.1%)	125,225 (58.5%)	9,456 (4.4%)
1977	222,257	82,025 (36.9%)	128,425 (57.8%)	11,807 (5.3%)
1979	228,312	88,980 (39.0%)	123,886 (54.3%)	15,446 (6.8%)
1981	246,827	80,034 (32.4%)	147,352 (59.7%)	19,441 (7.9%)
1983	244,615	82,034 (33.5%)	142,026 (58.1%)	20,555 (8.4%)
1985	236,289	82,735 (35.0%)	130,994 (55.4%)	22,610 (9.6%)
1986	258,207	87,746 (34.0%)	147,670 (57.2%)	22,791 (8.8%)
1987	251,669	81,695 (32.5%)	145,154 (57.7%)	24,820 (9.9%)

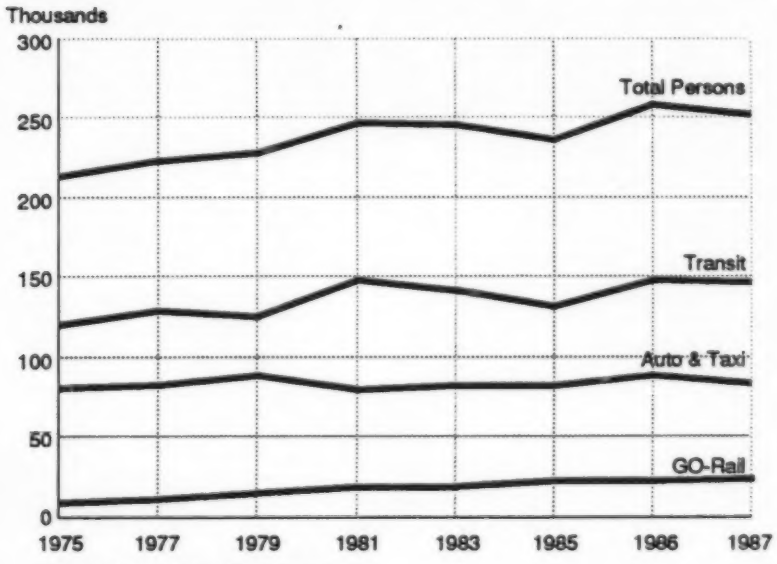
Source: Metro Cordon Count Program

Figure B-4
Inbound Person Trips Crossing Central Area Cordon
7:00 to 9:00 a.m.



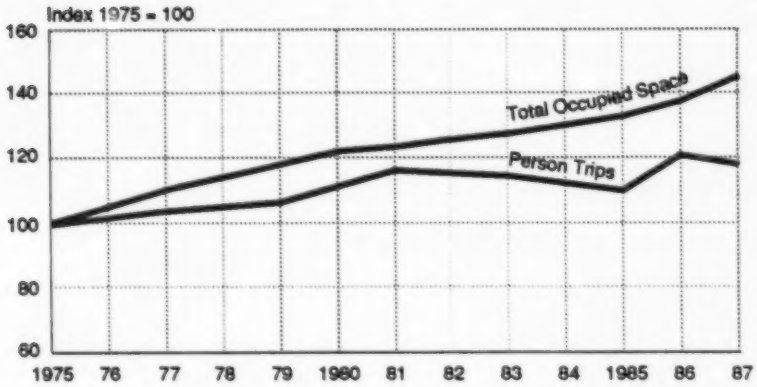
Source: Metro Cordon Count Program

Figure B-5
Inbound Person Trips Crossing Central Area Cordon
7:00 to 9:00 a.m. by Mode



Source: Metro Cordon Count Program

Figure B-6
Person Trips vs. Occupied Space in the Central Area



Source: Metro Cordon Count Program 1987, City of Toronto Planning and Development Department Land Use Information System, and Royal LePage Ltd.

Appendix C

Investing in Central Area Housing: Transportation Impacts

A. Housing and people

1. Assume 1,000 new housing units.

2. Assume 1.44 persons per housing unit.

   (This is the observed average level of occupancy of one-bedroom condominiums in the Central Core).

3. Assume 85% of new Central Area residents in the workforce.

   (Current data indicate a labour force participation rate of around 79% in the Central Area and it might be argued that for new residents moving into the area this figure could be somewhat higher, in the neighbourhood of 85%, at the margin).

4. Assume 66% of new residents in the labour force also work in the Central Area.

   (Recent survey results indicate that approximately 66% of the resident Central Area labourforce also work in the Central Area: the remainder live in the Central Area and work outside).

5. Therefore, an additional 1,000 housing units could result in approximately 800 new people living and working in the Central Area. (1,000 x 1.44 x 0.85 x 0.66 = 800 approx.).

6. At an assumed subsidy level of $25,000 per net additional housing unit, the above result could be achieved at a capital cost of $25 millions.

B. People and trips

7. Assume 55% of people travel to work in the single peak-hour.

   (Current data suggest that the percentage of people travelling to work in the single peak-hour is between 53% to 58% depending on the occupation mix).

8. Assume 75% of commuters coming into the Central Area take transit and 25% use the auto.

   (These figures approximate the observed modal split at the Downtown Cordon).

9. Assume 1.3 persons per car.

   (This figure approximates the observed average auto occupancy rate at the Central Area Cordon during the 7:00 - 9:00 a.m. period).

10. Therefore, the impact of building 1,000 additional housing units in the Central Area might be to reduce peak-hour transit passenger volumes and auto volumes by 330 trips and 85 vehicles respectively.

    (800 x 0.55 x 0.75 = 330 transit trips)

    (800 x 0.55 x 0.25 x 0.77 = 85 autos).

C. Verification

Assessment data indicate that the population of the Central Area over the age of 15 years increased by 14,279 persons over the 1981-86 period. Census information reveals the current (1986) labour force participation rate in the Central Area to be at the 83% level. On the basis of these figures, it would be expected that the resident labour force of the Central Area increased by 11,880 workers over the 1981-86 period. A 1986 sample survey of Central Area residents estimated that approximately 73% of resident Central Area workers had their place of employment in the Central Area. Thus, the 11,880 increase in the resident work force would be expected to produce 8,672 additional people both living and working in the Central Area, without the need to commute into the Central Area. Planning and Development Department estimates show the number of housing units in the Central Area to have increased by approximately 9,600 over the 1981-86 period. Consequently, in comparing the postulated results with the estimated actual results of the impacts of new housing development on Central Area transportation requirements, the following results obtain:

(a) Observed Relationship:
- 9,600 new Central Area housing units, 1981-86
- 8,672 more people living and working in the Central Area, 1981-86
- Average of 903 more people living and working in the Central Area for every 1,000 additional housing units built, 1981-86.

(b) Postulated Relationship:
- Average of 800 more people living and working in the Central Area for every 1,000 additional housing units built.

D. Summary of postulated relationship

Therefore, experience suggests that the impacts of new housing development in the Central Area on transportation requirements may be somewhat more beneficial than postulated (i.e. 902 fewer commuters per 1,000 new housing units, versus a postulated figure of 800).

- 1,000 additional housing units at subsidy cost of $25 million.
- 800 more people living and working in the Central Area.
- 800 less people required to commute to Central Area.
- 330 less peak-hour transit trips.
- 85 less peak-hour auto trips.

Appendix D

Downtown Employment Studies

Sectoral Study: Financial services industry

A better understanding of the trends in the Financial Services sector is recommended for the following reasons: Sub-Study 1 identified Financial and Business Services as the largest contributors to downtown office employment increases and the demand for office space since 1971. Furthermore, as many business services are supplied to the Financial Services sector, Financial Services could be singled out as the most significant contributor to downtown employment growth. The Financial Services sector is also currently undergoing substantial changes in Toronto, as the impacts of deregulating the industry are felt. Finally, the impacts of other changes in the environment are also poised to make significant impacts on the Financial Services sector (namely, the "securitization" of business financing and the "globalization" of many financial services).

Outlined below, is a work plan which sets out a process whereby the Planning and Development Department will undertake a scan of secondary sources, identify gaps in the information, interview key personnel in the Financial Services Industry and report back to the Downtown Employment Study Steering Committee on the findings. This study may conclude that:

- no further analysis is required since either conclusive evidence of the relationship between financial services deregulation is already documented or no such relationship can be derived from available data sources; or

- further consulting studies are required to collect and synthesize data which are fundamental to understanding the dynamics of financial services and which go beyond the scope and resources available to the Department.

In the event of the further need to study the Financial Services Sector, this proposal will enable us to focus on more specific terms of reference for future studies.

Work Plan

Step 1

Survey of Secondary Sources - to include, but not limited to, the following:

(a) Toronto Stock Exchange - Economic & Information Division
(b) Graduate Business Schools at local universities - professors' own work as well as student theses.
(c) Investment Dealers Association
(d) Canadian Bankers Association

This first step is expected to take about three months and should identify the major trends in the industry and its environment.

Step 2

Synthesize material from secondary sources and identify gaps in the information (one month)

Step 3

Interviews with personnel in the Financial Services industry in Toronto - to test conclusions from Step 2 above and to fill in any gaps (e.g. local (Toronto) or land use implications of more general conclusions) (two months)

Step 4

Final Report with Recommendations (one month).
Total study period 6-7 months, using in-house staff.

Appendix E

Letter dated December 28, 1987 received from Hemson Consulting Ltd.

As it is more than a year since we prepared our report "Outlook For Office Employment And Space In The Central Core" we felt it would be helpful to the Downtown Employment Study Steering Committee as it finalizes the Downtown Employment Study to have some observations about recent trends in the office market.

Of most significance is that demand for office space in the interim has been running at record levels exceeding even the rate of absorption experienced in the last office market "boom" in 1979/1980. In the Central Core the bulk of recent demand has been coming from the Financial and Business Service sectors. These were sectors (which in combination account for more than 50% of the Central Core space) that had been identified in the report as having growth potential. In particular the Investment and Securities sub-group was anticipated to be a source strong demand in the wake of the deregulation of the industry.

Statistics Canada employment data for the C.M.A. provide a measure of recent performance. They show that since June 1983 the Financial Services sector has grown by approximately 25%. Between June 1986 and June 1987 they grew by 5.3%. By comparison long-term Metro statistics for the Central Core by itself indicate a more modest 2.9% average annual growth for all sectors between 1971 and 1986.

The Services to Business Sector has also shown equally strong performance in the recent period. At the C.M.A. level, growth was about 13% between June 1983 and June 1987 with nearly 12% growth occurring in the last year. Comparable long-term Metro statistics for the Central Core (1971-1986) show average growth of 4.4%.

In the larger context the high demand for space in the Central Core is not unexpected given the very rapid growth rate of the provincial economy since the Great Recession. For example, Gross Domestic Product growth 1983-1986 averaged 6.1% per year whereas in the previous ten years the average growth was only 2.1%.

Despite these recent buoyant statistics it remains our view that the current boom in the office market is not representative of the likely overall activity during the five year period of the forecast. Several factors tend to support this.

- Economic growth is very unlikely to be sustained at current levels throughout the forecast period. Indeed past evidence suggests that a recession will probably occur at some time during the next four years.

- The Financial Services sector which has contributed more than its natural share to recent demand is likely to go through a rationalization in the next few years. This pattern is already being seen in both London and New York. Indeed the stock market crash of October 19th may well prove to be the start of the retrenchment that has been expected for some time. If this is the case, there is every likelihood based on past experience that rather than continuing to grow the Investment and Securities sub-group may suffer a decline in size as it did during the 1970s.

- New space supply limitations in the mid term will also inhibit the current growth rate from being sustained. At present aside from Scotia Plaza no major projects are under construction in the Central Core. While many new projects are in the latter stages of planning the time lag between initation and occupancy dictates that much of this space will not be on stream until into the 1990s.

On the balance therefore we believe that the recent high rate of demand represents the culmination of the post recession cycle and is not indicative of "normal" long-term demand. We anticipate that 1988 and 1989 will see a significant moderation in demand. Accordingly we consider that the forecast range of demand contained in our report remains realistic.